

have hyperthyroidism, on account of her tachycardia, high blood pressure, excessive perspiration and constant loss of weight. Upon careful examination by a surgeon, she was told that there was no trouble with the thyroid, but was advised to have some observation of body metabolism. We found her in constant negative nitrogen balance but with a high blood nitrogen. There was intestinal putrefaction with intense indicanuria. The proteids and fats were reduced to a minimum and the body requirements made up by carbohydrates. The intestinal putrefaction grew less, the indicanuria disappeared, blood pressure and tachycardia were much reduced and there was a gain of three pounds in weight during the first month.

A woman of 50 years with a high blood pressure had been treated for twelve years for diabetes. She had a high blood sugar and glycosuria, high blood nitrogen, but was in negative nitrogen balance. On a diet of rice gruel and crackers, the intestinal putrefaction which was extreme cleared up entirely, and the blood pressure came down from 240 to 175 within ten days. The glycosuria disappeared and the blood sugar became normal.

A woman of 50 years with extreme tachycardia showed a very high blood nitrogen and an extreme negative nitrogen balance. On a carbohydrate diet which relieved the intestinal putrefaction, her symptoms became gradually better.

These patients, together with a large number of others with similar symptoms, all gave evidence upon further investigation of cholecystitis, some were confirmed by operation, after which their tolerance for proteid digestion became greatly improved. In all of these cases as shown by the differential nitrogens, the negative nitrogen balance was proved to be not due to loss of body musculature, but was absorbed as split products of protein from the intestinal tract and re-excreted.

Roger believes that glycuronuria is to date the most practical index of the protecting power of the liver and emphasizes the instructive importance of determining the condition as a routine procedure when there are abnormal symptoms. Indicanuria is also a reliable index when present, though large amounts of indican as well as glycuronates may be excreted in health, yet a constant excessive production is a sign of over-stimulation, and may be the danger signal of approaching liver insufficiency.

We are gradually finding explanations to previously obscure conditions, and thus coming very close to nature and may yet hope to come into complete command.

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The first factory established in the Commonwealth of Australia for the manufacture of artificial limbs for returned soldiers was formally opened on April 8 at Caulfield, Victoria. In a short time it is proposed to open similar factories in each of the other States in the Commonwealth, those to be established at Sydney and Brisbane to be completed first. The entire project is under the direction of an American, who has factories in the United States.—Commerce Reports, May 29.

## AUTOGENOUS COLON VACCINES IN ECZEMA.\*

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The etiology of eczema is a maze in which one may easily become lost. Eczema, like many other dermatologic diseases, so-called, is probably only a symptom. Imperfect metabolism, internal irritants of digestive, renal, even mental and nervous origin, account for three-fourths of the cases, the remainder being due to external irritants.

In this inflammation Stelwagen states there is always an "unknown quantity," a "necessary something" which is the ultimate basis for this particular symptom in the individual. A closer co-ordination of the efforts of the dermatologist (heretofore too often concentrated on the external evidence alone)—the internist, gastro-intestinal expert, the pathologist, the dentist even in certain cases, is requisite if we are to demarcate properly the various groups of cases for etiologic treatment.

Medalia in a thorough study of fifty cases of obstinate chronic eczema has separated a group in which an original transitory dermatitis is changed into a true eczema by secondary bacterial invasion. This he demonstrates by the absence of bacteria in the lesions in the primary stage, abundant growth in the secondary, eczema lesions, and the clinical response to specific vaccines. His cases were nearly all due to varieties of staphylococcus, in a few accompanied by streptococcus, and together with the usual treatment, autogenous vaccine in large doses—6000 million and more was used, "yielding by far the best results in the treatment of this intractable disease." (He reports 51 cases, 43 cures, 8 had one or more recurrences easily controlled, 6 improved, no change one, unknown one. Average duration of treatment 11 weeks. Average duration of disease 8½ years).

A second but very small group of cases isolated by Wood are due to the absorption of bacterial endotoxins, and are anaphylactic in character, similar to the rash from scarlatinal angina. These were cases due to focal infection in the teeth and nasal sinuses. Streptococci were isolated in the majority of cases, and vaccines (together with local treatment of the various lesions) brought the cases under control. In such cases the dose of vaccine should be very small, as the power of digesting toxic split proteins is but slowly acquired.

In formulating a new hypothesis we do not wish to quarrel with working theories previously demonstrated. We wish to present certain facts which we think establish a group of cases of eczema on a definite basis for treatment.

Several cases of toxic eczema occurring in Dr. Jackson's practice showing a high indicanuria, in a few accompanied by casts, were interpreted by us as demonstrating an intoxication from the bowel. Indican is of course non-toxic in itself, but is a gauge of the degree of intestinal putrefaction producing poisonous toxalbumins which we have no means of estimating directly. In these cases with much indican, and no albumin but with casts, the

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CASE	CLINIC NOTES	DURATION	VACCINE	REACTION	RESULT
1.	Chronic squamous eczema, soles feet. Indican XX.	Periodically 2 years	3 a week	severe	Cure four weeks
2.	Acute toxic eczema, fore arms and hands, Indican.	3 weeks	2 a week	slight	Cure
3.	Hyperkeratosis palms and soles feet. Painful fissures. Indican, plus.	5 years	3 a week	severe	Cure of palms in 2 months. One foot cured, other fluctuates.
4.	Acute type eczema, hands and arms. Indican X.	1 year	2 a week	moderate	Improved at fourth treatment (2 weeks). Cure 2 months.
5.	Toxic eczema thighs. Indican XX.	2 weeks	3 a week	severe	Cure. Lesions disappeared several times after vaccine, but returned. Cure 2 months. No local treatment. Rapid improvement at first, returned, cure in 2 months.
6.	Eczema, face, hands. Indican XX.	6 months	2 a week	severe	Immediate decrease itching. Cure 6 weeks.
7.	Eczema wrists. Indican XX.	2 weeks	2 a week	slight	Cure 1 month.
8.	Acute type eczema, hands and forearms. Indican X.	1 month	2 a week	severe	No result.
9.	Pityriasis Rubra general, Indican X.	3 years	2 a week	moderate	No result.
10.	Eczema buttocks Indican XX.	6 months	2 a week	severe	Slight improvement.
11.	Eczema hands. Indican XX.	6 months	3 a week	severe	Cure 1 month.
12.	Eczema back of neck, hands. Indican XX.	1 month	3 a week	severe	Improvement marked, recurrence on neglect of treatment. Rapid improvement and cure on resumption of colon vaccine.

latter were considered as additional evidence of the irritation of the intangible toxins passing through the kidney, the source of which was pointed out by the indican.

The theory was formed that this improper decomposition within the bowel and the resultant lesions in the mucus (Barr states that indican is not absorbed from the intact membrane) were the product of the metabolic activity of the type of *b. coli* prevailing, and that immunization of the individual to this noxious biochemical character of his colon bacilli might change their habits of growth at least to the extent of rendering them normally harmless to him again.

*B. coli* was isolated from the feces on Endo medium. Culturally nothing unusual has been found in the growth of the organism, nor is this to be expected. The vaccine is prepared in the usual way but in rather high concentration, 2 to 4 billion per mil. Colon bacilli are ordinarily given in initial dose of 25 million, and Satterlee in treating cases of chronic intestinal stasis with specific colon vaccines used a maximum of 300 millions, reactions being very severe. In the chronic conditions in which vaccines find their greatest field of use the upper limit of dosage should never be fixed. The guide should be the reaction, local and clinical. A minimal dose at the beginning can be readily increased, avoiding a too severe local reaction; should such occur, giving a smaller dose next time. The interval at first should be the subsidence of the local reaction; when the dose is established the interval should be 3 to 7 days. In acute cases dosage should be small to avoid negative phase. Thus guided, Dr. Jackson found that a dose greatly in excess of that prescribed as the maximum had to be given in the toxic eczemas studied; in some cases the dose was gradually increased to 3000 million.

The result of autogenous colon vaccine therapy in cases with excessive amounts of indican was so good that the experiment was extended to other cases showing only small amounts, and later to a third group with no indican (to Obermayer test, used in all cases with no refinements, in order not to force cases). We thought that possibly the disease was an anaphylactic condition, and the cures

a result of non-specific reaction; however, this does not seem to be true as the ratio of cure dropped, and the cases with no indican are no better for the addition of vaccine to the treatment, those with a trace showing enough improvement in instances to make the experiment worth while.

On account of Dr. Jackson giving up his practice to enter the Government service, we are unfortunate in not being able to present a larger group of cases with indicanuria; however, our object is rather to invite similar study on the part of men in charge of clinics in larger cities.

We have twelve cases with indicanuria, of whom nine were cured, two showed no result from vaccines. Twenty other cases with traces of indican, or no indican, showed improvement and cure attributable to the vaccine in three cases, and slight benefit in one.

In all cases a simple diet was prescribed, elimination was watched, and the usual mild, local applications made, except in cases 11 (a physician), 1, 3 and 6, in which the vaccine was used alone. Our confidence in the vaccine arises from the shortened time of treatment, based on experience with the refractory nature of many of these kinds of cases; on the relation of time of cure to the duration of the disease, several cases having quite gone the rounds and in certain cases (5, 6, and 12) by improvement immediately following vaccine and relapse on its suspension.

We have then a new group of eczema cases, in which there is a perverted metabolism of the individual's colon bacilli, possibly a mild inflammation (an eczema) of the bowel itself, with toxemia, and eczema in the susceptible skin. Through the use of the specific vaccine the individual immunity is re-established, the colon bacilli subside to their ordinary habits of growth, losing their acquired virulence, and the symptoms disappear.

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